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DATE 1/11/01

APPENDIX 40

LOADING AND BRACING PROCEDURES FOR AMMUNITION LOADED ON CONTAINER ROLL IN/OUT PLATFORM (CROP)

**BOXED AMMUNITION UNITIZED ON TYPE II SKID;
TYPICAL SKIDDED UNIT SIZE 38-1/2" L X 28" W X
33-1/2" H (1000 LBS MAXIMUM WEIGHT)**

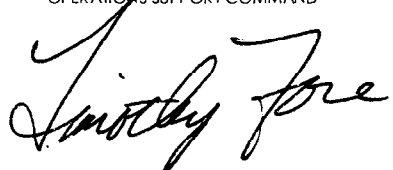
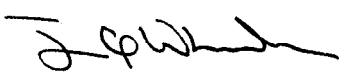
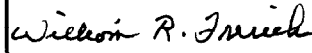
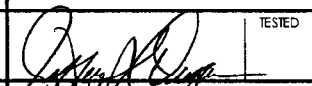
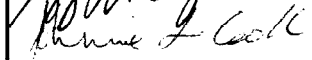
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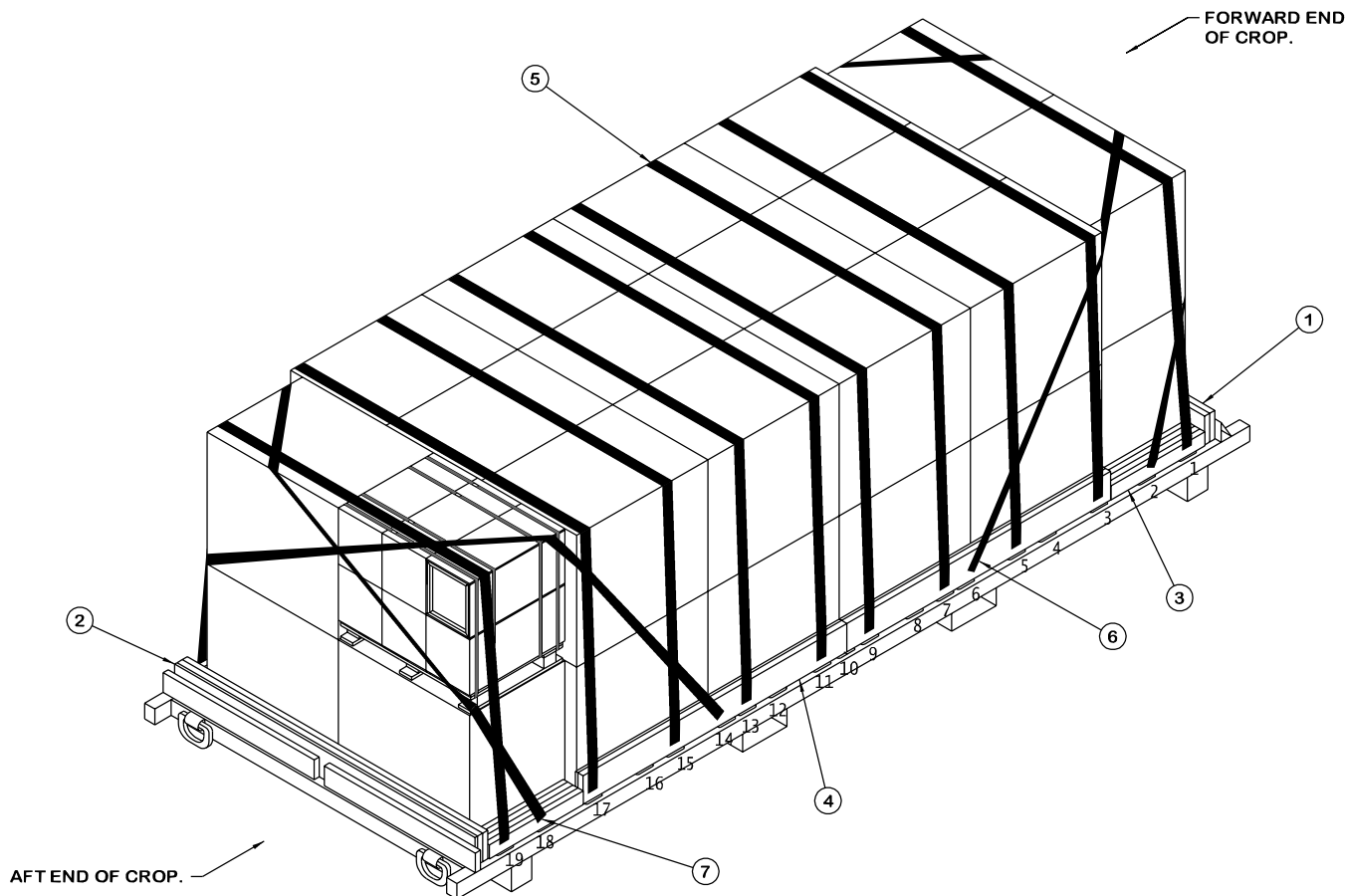
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NOTICE: THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC CROP OUTLOADING PROCEDURES DRAWING 19-48-4906-CA17Q7.

- LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY MOTOR OR WATER CARRIERS.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY OPERATIONS SUPPORT COMMAND 	ENGINEER	BASIC	WALTER GORDON		DO NOT SCALE			
		REV.			WEBSITE: HTTP://WWW.DAC.ARMY.MIL			
	TECHNICIAN	BASIC			DECEMBER 2000			
	REV.							
	DRAFTSMAN	BASIC						
		REV.						
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND 	TRANSPORTATION ENGINEERING DIVISION				CLASS	DIVISION	DRAWING	FILE
	VALIDATION ENGINEERING DIVISION				19	48	4906/ 40	CA17Q7
	ENGINEERING DIRECTORATE							



ISOMETRIC VIEW

(KEY NUMBERS CONTINUED)

- ⑥ FORWARD END RESTRAINT STRAP, 3-INCH WIDE WEB STRAP TIEDOWN ASSEMBLY FOR CROP (2 REQD). INSTALL EACH STRAP FROM THE SIXTH TIEDOWN ANCHOR ON ONE SIDE OF THE CROP (ONE ON EACH SIDE), OVER THE TOP AND ACROSS THE FRONT OF THE SKIDDED UNITS AND BACK DOWN TO THE SECOND TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE CROP. ALIGN SCUFF SLEEVES OVER ALL SHARP EDGES AND FIRMLY TENSION STRAP. SEE GENERAL NOTE "F" ON PAGE 3.
- ⑦ AFT END RESTRAINT STRAP, 3-INCH WIDE WEB STRAP TIEDOWN ASSEMBLY FOR CROP (2 REQD). INSTALL EACH STRAP FROM THE EIGHTEENTH TIEDOWN ANCHOR ON ONE SIDE OF THE CROP (ONE ON EACH SIDE), OVER THE TOP AND ACROSS THE AFT OF THE SKIDDED UNITS AND BACK DOWN TO THE FOURTEENTH TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE CROP. ALIGN SCUFF SLEEVES OVER ALL SHARP EDGES AND FIRMLY TENSION STRAP. SEE GENERAL NOTE "F" ON PAGE 3.

KEY NUMBERS

- ① FORWARD FILLER ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 4. CENTER AGAINST FORWARD CROP END GATE AND, AFTER THE SKIDDED UNITS ARE LOADED, NAIL W/2-12d NAILS THRU THE SLOTS IN THE FORWARD CROP END GATE INTO THE FORWARD FILLER ASSEMBLY, LEAVING THE NAIL HEADS PROTRUDING THRU THE HOLES TO PROVIDE LATERAL RESTRAINT. SEE GENERAL NOTE "B" ON PAGE 3.
- ② AFT FILLER ASSEMBLY (1 REQD). SEE DETAIL ON PAGE 4. CENTER AGAINST AFT CROP END GATE AND, AFTER SKIDDED UNITS ARE LOADED, NAIL TWO 12d NAILS THRU UPPER CORNER OF OPENING IN AFT END GATES INTO THE AFT FILLER ASSEMBLY, WITH NAIL HEADS PROTRUDING AND BENT OVER VERTICAL TUBE OF END GATES TO PROVIDE LATERAL AND VERTICAL RESTRAINT.
- ③ SIDE FILL ASSEMBLY A, 2" X 4" X 27'-1/2" (16 PIECES REQD). LAMINATE FOUR PIECES TOGETHER W/4-10d NAILS, EVENLY SPACED, TO FORM ONE ASSEMBLY. INSTALL TWO ASSEMBLIES ON EACH SIDE OF THE CROP. SEE GENERAL NOTES "G" AND "H" ON PAGE 3.
- ④ SIDE FILL ASSEMBLY B, 1" X 8" X 6'-5-1/4" AND 2" X 8" X 6'-5-1/4" (4 EACH REQD). LAMINATE THE 1" X 8" PIECE TO THE 2" X 8" PIECE W/7-6d NAILS, EVENLY SPACED, TO FORM ONE ASSEMBLY. INSTALL TWO ASSEMBLIES ON EACH SIDE OF THE CROP. SEE GENERAL NOTES "G" AND "H" ON PAGE 3.
- ⑤ HOLD-DOWN STRAP, 3-INCH WIDE WEB STRAP TIEDOWN ASSEMBLY FOR CROP (10 REQD). INSTALL EACH HOLD-DOWN STRAP TO EXTEND FROM THE DESIGNATED TIEDOWN ANCHOR ON ONE SIDE OF CROP, OVER TOP OF SKIDDED UNITS, TO CORRESPONDING TIEDOWN ANCHOR ON OPPOSITE SIDE OF CROP. ALIGN SCUFF SLEEVES OVER ALL SHARP EDGES AND FIRMLY TENSION STRAP. SEE GENERAL NOTE "F" ON PAGE 3.

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GENERAL NOTES

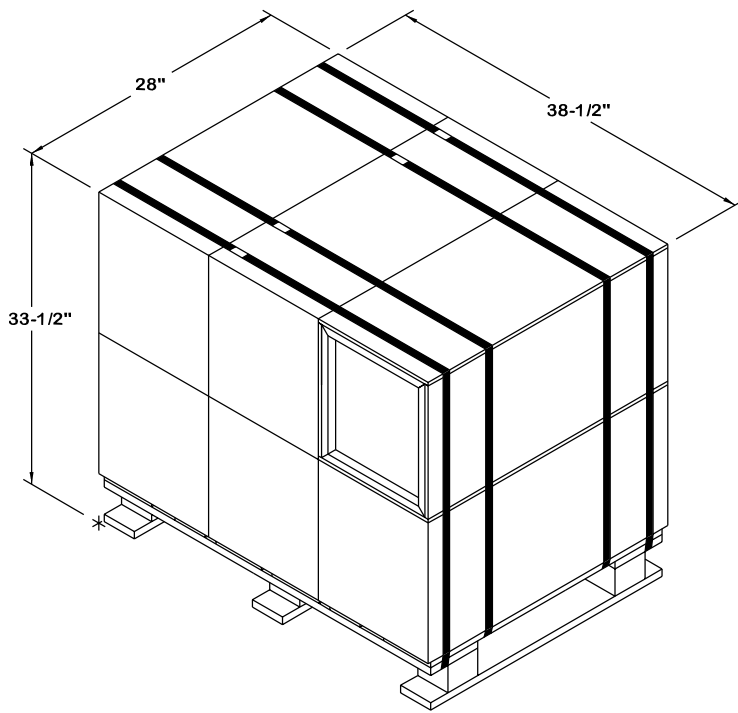
- A. THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC LOADING PROCEDURES DRAWING 19-48-4906-CA17Q7. TO PRODUCE AN APPROVED LOAD, ALL PERTINENT PROCEDURES, SPECIFICATIONS AND CRITERIA SET FORTH WITHIN THE BASIC DRAWING WILL APPLY TO THE PROCEDURES DELINEATED IN THIS APPENDIX. ANY EXCEPTIONS TO THE BASIC PROCEDURES ARE SPECIFIED IN THIS APPENDIX.
- B. THE OUTLOADING PROCEDURES DEPICTED IN THIS DRAWING ARE APPLICABLE TO LOADS OF 32 SKIDDED UNITS. SEE PAGE 4 FOR DETAIL OF THE TYPICAL SKIDDED UNIT. AN M3 (SUMMA) CROP IS SHOWN AS TYPICAL. OTHER MANUFACTURER'S CROPS CAN BE USED FOR THE LOAD SHOWN ON PAGE 2. THE AFT AND FORWARD END FILLER ASSEMBLIES OR PIECES MUST BE RESTRAINED FROM MOVING IN BOTH THE LATERAL AND VERTICAL DIRECTIONS. THIS IS ACCOMPLISHED IN THE LOAD SHOWN ON PAGE 2 WITH RETAINING NAILS (AFT FILLER ASSEMBLY) AND HOLD DOWN PIECES AND RETAINING NAILS (FORWARD FILLER ASSEMBLY). IF THE CONFIGURATION OF A CROP IS SUCH THAT VERTICAL OR LATERAL RESTRAINT CANNOT BE PROVIDED, ADDITIONAL RESTRAINT METHODS, TO INCLUDE HOLD DOWN PIECES, RETAINING NAILS, AND/OR 2" WIDE WEB STRAP TIEDOWN ASSEMBLIES MUST BE INSTALLED.
- C. THE LOADING PROCEDURES DEPICTED HEREIN MAY BE USED FOR OUTLOADING PALLET UNITS WITH DIMENSIONS OTHER THAN WHAT IS SHOWN FOR THE SKIDDED UNIT ON PAGE 4, PROVIDED THE OVERALL PALLET UNIT DIMENSIONS RESULT IN A LOAD THAT IS CONTAINED WITHIN AN ENVELOPE OF 211" L X 89" W X 73-1/2" H.
- D. DIMENSIONS, CUBE AND WEIGHT OF THE SKIDDED UNITS WILL VARY SLIGHTLY DEPENDING UPON THE ACTUAL DIMENSIONS OF THE BOXES AND THE WEIGHT OF THE SPECIFIC ITEM BEING UNITIZED.
- E. DIMENSIONS GIVEN FOR DUNNAGE ASSEMBLIES WILL BE FIELD CHECKED PRIOR TO THEIR ASSEMBLY. SKIDDED UNITS MUST FIT SNUGLY AGAINST THE DUNNAGE ASSEMBLIES. THIS GUIDANCE MUST BE APPLIED PRIOR TO BEGINNING AN OUTLOADING OPERATION. ALSO, DUE TO VARIATION OF SKIDDED UNIT DIMENSIONS, ADJUSTMENTS MAY BE REQUIRED AS TO THE LOCATION OF CERTAIN PIECES ON DUNNAGE ASSEMBLIES.
- F. ALL WEB STRAP TIEDOWN ASSEMBLIES MUST HAVE THE EXCESS LENGTH OF THE STRAP SECURED. ROLL UP AND BUNDLE THE EXCESS LENGTH OF WEB STRAP, SECURING WITH CABLE TIES. SEE THE "STRAP END SECUREMENT" DETAIL AND GENERAL NOTE "K.12" IN THE BASIC PROCEDURE DRAWING 19-48-4906-CA17Q7.
- G. EACH END OF THE SIDE FILL PIECES MUST BE SECURED BY NAILING A 10d NAIL THRU A 3" WEB STRAP HOOK SLOT. SEE "STRAP HOOK DETAIL" AND GENERAL NOTE "G.2" IN THE BASIC PROCEDURES DRAWING 19-48-4906-CA17Q7.
- H. FOR ALTERNATE SIDE BLOCKING, SEE GENERAL NOTE "D.4" IN THE BASIC PROCEDURES DRAWING 19-48-4906-CA17Q7.
- J. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4MM AND ONE POUND EQUALS 0.454 KG.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
1" X 8"	41	27
2" X 3" (ACTUAL)	2	1
2" X 4"	63	42
2" X 8"	30	39
NAILS	NO. REQD	POUNDS
6d (2")	36	1/4
10d (3")	83	1-1/2
12d (3-1/4")	4	NIL

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
SKIDDED UNIT	32	18,336 LBS
DUNNAGE		219 LBS
CROP		3,800 LBS
TOTAL WEIGHT		22,355 LBS (APPROX)



TYPICAL SKIDDED UNIT DETAIL

GROSS WEIGHT - - - - - 573 LBS (APPROX)
 CUBE - - - - - 20.8 CUBIC FEET (APPROX)

SPECIAL NOTE: HOLD DOWN PIECES (IF REQD) MUST BE RECESSED UNDERNEATH THE SKIDDED UNITS AND FIT BETWEEN THE SKIDS. FIELD CHECK DIMENSIONS BEFORE ASSEMBLY TO ENSURE A PROPER FIT. SEE GENERAL NOTES "B" AND "E" ON PAGE 3.

